VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a *Minor, Municipal permit*. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et. seq. The treatment facilities include an extended aeration package plant, which contains a grease trap, bar screen, aeration tank, sludge holding tank, clarifier, chlorinator, chlorine contact tank, dechlorinator and mechanical post aeration facilities. The design flow of the sewage treatment works is 0.012 MGD. This permit action consists of limiting pH, biochemical oxygen demand, total suspended solids, dissolved oxygen, ammonia nitrogen, Ecoli and total residual chlorine in Mill Branch and requiring other special conditions and reporting requirements. The SIC Code for this facility is 4952.

1. Facility Name and Applicant Address:
Wise County Public Schools
Appalachia Elementary School
P.O. Box 1217
Wise, VA 24293

Facility Address/Location:
3965 Kent Junction Road
Appalachia, VA 24216

2. Permit No. VA0060798 Existing Permit Expiration Date: *3/30/2016*

3. Owner/Permit Contact:
Name: Greg Mullins
Title: Division Superintendent
Telephone No: 276-328-8017

Facility Contact:
Name: Mr. Gary Lawson
Title: Dir. Facilities & Maintenance
Telephone No: 276-328-8281

Appalachia Elementary School Telephone No. (276) 565-1115.

4. Application Complete Date: October 17, 2015

Permit Drafted By: Willard Keene Date: 12/29/2015
Southwest Regional Office

Reviewed By: Stan E. Artis Date: 01/11/2016
Southwest Regional Office

Public Comment Period Dates: from _____ to _____

5. Receiving Stream Name: Mill Branch
River Mile: 6BMLL000.04
Basin: Tennessee-Big Sandy River
Subbasin: Clinch/Powell River
Section: 1
Class: IV
Special Standards: None

Drought Flow Frequencies at discharge on Mill Branch:

7-Day, 10-Year Low Flow (7Q10):	0.0969	MGD
1-Day, 10-Year Low Flow (1Q10):	0.0905	MGD
7Q10 High Flow months, Dec-May:	0.2391	MGD
1Q10 High Flow months, Dec-May:	0.1939	MGD
30-Day, 5-Year Low Flow (30Q5):	0.1745	MGD
Harmonic Mean Flow (HM):	0.7109	MGD

See Attachment No. 1 for a copy of the drought flow determination for this outfall. The Memorandum from WQAP is dated 7/6/1995.

Tidal: No On 303(d) list? No

6. Operator License Requirements: None.

7. Reliability Class: - A Class III Reliability has been established for this facility and will be maintained in this permit.

8. Permit Characterization:
() Private () Federal () State (X) POTW () PVOTW

() Possible Interstate Effect () Interim Limits in Other Document

9. Provide a brief description of the wastewater treatment system.

Discharge Description

OUTFALL NUMBER	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	Domestic Sewage Treatment Plant serving a population of 400 students and staff at the Appalachia Elementary School.	The treatment facilities include an extended aeration package plant, which contains a grease trap, comminutor/bar screen, aeration basin, sludge holding tank, clarifier, chlorinator, chlorine contact tank, dechlorinator and mechanical post aeration facilities.	The design flow of the sewage treatment works is 0.012 MGD.

10. Sewage Sludge Use or Disposal:
Sewage sludge will be removed from the compartments of the treatment plant as needed and transported in a watertight tank truck to the Coeburn-Norton-Wise WWTP (VA0077828). This larger treatment works will provide additional stabilization and treatment of the sludge prior to final disposal. A Special Condition is contained in this permit, which will allow modification of the permit should the sludge management practices at this facility change. All changes must be submitted for review and approval 90 days prior to the effective date of the changes.

11. Discharge Location Description:
Name: Appalachia, VA. - KY. Quadrangle
Map Number: 061A
Latitude: 36° 55′ 30″ Longitude: 82° 44′ 44″
See Attachment No. 2 for a location map of the outfall.

12. Material Storage:
None reported.

13. Ambient Water Quality Information:
No Ambient Water Quality sampling performed on Mill Branch.

14. Antidegradation Review & Comments:
Tier I __(X)__ Tier II _____ Tier III _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. Since the existing effluent limitations for BOD_5 for Appalachia Elementary STP are based on existing water quality standards, Mill Branch is considered to be a *Tier I waterbody*.

15. Site Inspection: Date: 3/7/2012
Technical Inspection Performed by: Danny Petty, Water Compliance Specialist Senior, DEQ-SWRO.

16. Effluent Screening & Limitation Development:

a. Ammonia Nitrogen:
Permit limits for ammonia nitrogen were evaluated during past permit actions on January 2011 and it was determined that a permit limit of 14 mg/l was necessary during the months of June-November. The current permit limit of 14 mg/l will be retained in this permit.

The determination of the acute and chronic water quality criteria for ammonia is determined by using the formulas or tables found in section 9 VAC 25-260-155 (Ammonia surface water quality criteria) in the Virginia Water Quality Standards (9 VAC 25-260) January 2011.

An acute ammonia nitrogen standard is now calculated without consideration of the stream temperature. The acute criteria are more restrictive if the trout species are present (*only Class V or VI waters*). The 1Q10 flow frequency value is used to calculate the steady state waste load allocations.

A chronic ammonia nitrogen standard is now calculated by considering whether or not the early life stage of fish are present or absent and the pH and temperature of the stream. The 30Q10 flow frequency is also now used to calculate the steady state waste load allocations.

Ammonia concentrations reflected in this application are consistent with previous data; flow and all other variables remain unchanged. Prior evaluation for reasonable potential remains valid and no changes are proposed in this permit. Should the department adopt new standards they will be implemented.

See Attachment No. 3 for details of the calculations.

b. *BOD_5 - Biochemical Oxygen Demand/Dissolved Oxygen*
Based on best professional judgment BOD_5 limits will be carried forward and retained in this permit.

c. *Total Residual Chlorine:*
In order to bring chlorine into consistency with the standards for all other toxic materials, the old standard was revoked and chlorine was included in 9 VAC 24-260-140.B., which became effective on 12/10/97. *See Attachment No. 4 for details of the calculations for the wasteload allocations and corresponding permit limitations.* Analysis of TRC limits using the updated flows result in a weekly average limit of 0.089 mg/l and a monthly average limit of 0.072 mg/l. These values are less restrictive than the current limits, and therefore, the current limits will be retained in this permit. *The monthly average TRC limit is 0.068 mg/l and the weekly average is 0.084 mg/l.*

d. *Bacterial Standards*:
On January 15, 2003, new bacteria standards in the Water Quality Standards Section 9VAC25-260-170.A became effective, as did the revised disinfection policy of 9VAC25-260-170.B. These standards replaced the existing fecal coliform standard and disinfection policy of 9VAC25-160-170. In short, E.coli criteria replaced the existing fecal coliform criteria for freshwater. For major and minor VPDES permits with an EPA approved TMDL, which has a wasteload allocation for bacteria for that facility, E.coli limits are also required. Although chlorine residual is still considered the primary assurance of adequate disinfection, E.coli limits must be incorporated in these permits. *Therefore, E.coli sampling is required in any single month of each calendar year, at a frequency of four (4) samples per month*. The Water Quality Standards 9VAC25-260-170 allows for geometric means to be calculated using all data collected during any calendar month with a minimum of four weekly samples, collected at least 7 days apart between the hours of 10:00 a.m. and 4:00 p.m. E. coli bacteria shall not exceed a monthly geometric mean of 126 CFU/100 ml in freshwater.

e. pH:
pH concentrations are *6.0 S.U. minimum and 9.0 S.U. maximum* in accordance with the criteria provided in the Water Quality Standards 9 VAC 25-260, et seq.

f. Total Suspended Solids concentrations are *30 mg/l monthly average and 45 mg/l weekly average* in accordance with the Federal Effluent Guidelines.

g. Reduced Monitoring
EPA published "Interim Guidance For Performance-Based Reduction of NPDES Permit Frequencies" (EPA 833-B-96-001) in April 1996. This facility does not qualify for reduced monitoring due to the intermittent status of the discharge (school is closed in June, July and parts of August).

g. Basis for Effluent Limitations:

Basis for Effluent Limitations

PARAMETER	(a) BASIS FOR LIMITS	DISCHARGE LIMITS(b)				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN	MAX	FREQUENCY	SAMPLE TYPE
Flow	NA	NL	NA	NA	NL	1/Day	(c) Estimate
pH (SU)	3	NA	NA	6.0 S.U.	9.0 S.U.	1/Day	Grab
BOD_5	2,5	30 mg/l 1.4 kg/d	45 mg/l 2.0 kg/d	NA	NA	1/Month	Grab
Total Suspended Solids	1	30 mg/l 1.4 kg/d	45 mg/l 2.0 kg/d	NA	NA	1/Month	Grab
Dissolved Oxygen	3	NA	NA	5.0 mg/l	NL	1/Day	Grab
(d) Total Residual Chlorine	3,4	0.068 mg/l	0.084 mg/l	NA	NA	1/Day	Grab
Ammonia Nitrogen	3,4	14 mg/l June - Nov.	14 mg/l June - Nov.	NA	NA	1/Month	Grab
(e,f) E.Coli	3	126 N/100 ml	NL	NA	NA	(f) 1/Year	Grab

a. 1. Federal Effluent guidelines
2. Best Engineering Judgment:
3. Water Quality standard
4. Other (e.g. wasteload allocation model)
5. Best Professional Judgment

b. Express limits in units of concentration (mg/l) and/or mass (kg/d).

c. Estimated average daily flowrate shall be based on the most accurate method or device available such as: weir, potable water meter, pump rates, etc.

d. ADDITIONAL INSTRUCTIONS AND MONITORING REQUIREMENTS FOR TRC
See Items 1-5 below.

1. The permittee shall monitor TRC at the outlet of the chlorine contact tank, *once per day* by *grab sample.*

2. No more than (**3**) samples of all samples taken at the outlet of the chlorine contact tank shall be less than *1.0 mg/l* for any one calendar month [DMR code # 157].

3. No TRC sample collected at the outlet of the chlorine contact tank shall be less than *0.60 mg/*l [DMR code # 213].

4. If dechlorination facilities exist the samples above shall be collected prior to dechlorination.

5. If chlorine is not used, bacteria shall be limited and monitored by the permittee as specified below:

	Discharge Limitations		Monitoring Requirements	
	Monthly Avg.	Weekly Avg.	Frequency	Sample Type
E.coli (N/100ml)	126*	NA	1/Week**	Grab

* Geometric Mean; ** Between 10:00 a.m. and 4:00 p.m.

e. Samples for E. coli are to be collected between the hours of 10:00 a.m. and 4:00 p.m.

f. E.coli sampling may be conducted in any single month of the calendar year. Four (4) E.coli samples shall be taken, with at least 1 sample taken each calendar week, in any calendar month of each year. Samples should be taken at least seven days apart within the chosen month. The results are to be calculated and reported as a Geometric Mean of the 4 samples collected during any single month.

17. Basis for Sludge Use & Disposal:
VPDES Permit Regulation, 9VAC25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

18. Antibacksliding Statement:
Compliance with antibacksliding provisions of the Permit Regulation (9 VAC 25-31-220.1) have been achieved since no less stringent limitations are contained in this permit.

19. Compliance Schedules: No schedules of compliance are included in this permit.

20. Special Conditions:

PART I.B. Additional TRC Limitations and Monitoring Requirements:

Rationale: Required by Sewage Collection and Treatment Regulations, 9 VAC 25-790, bacteria standards; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

Part I. C. Compliance Reporting Under part I. A.:

Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when toxic pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

Part I. D. Other Requirements and Special Conditions:

a. Treatment Plant Flows - 95% Capacity Reopener:
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for all POTW and PVOTW permits.

b. Indirect Dischargers:
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 and 9 VAC 25-31-200 B2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c. O&M Manual Requirement:
Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulation, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190 E.

d. Reliability Class:
Rationale: Required by Sewage Collection and Treatment Regulation, 9 VAC 25-790 for all municipal facilities.

e. CTC, CTO Requirement:
Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.

f. Treatment Works Closure Plan:
Rationale: This condition establishes the requirement to submit a closure plan for the treatment works if the treatment facility is being replaced or is expected to close. This is necessary to ensure treatment works are properly closed so that the risk of untreated waste water discharge, spills, leaks and exposure to raw materials is eliminated and water quality maintained. Section 62.1-44.21 requires every owner to furnish when requested plans, specification, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purpose of the State Water Control Law.

g. Sludge Use and Disposal:
Rationale: *Rationale*: VPDES Permit Regulation, 9VAC25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

h. Sludge Reopener:
Rationale: Required by VPDES Permit Regulation, 9VAC25-31-220 C for all permits issued to treatment works treating domestic sewage.

i. Public Sewerage Service:
Rationale: DEQ strategy to minimize individual discharges and promote regionalization of wastewater treatment. The permit shall be terminated when public sewerage service is made available.

j. Total Maximum Daily Load (TMDL) Reopener:
Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

k. Part II, Conditions Applicable to All Permits:
Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

21. Changes to Permit:

- Part I.A. - Limitations and Monitoring Requirements:
An E.coli limit has been included in Part I.A.

- Part I.B. - Additional TRC Limitations and Monitoring Requirements:
No changes proposed for total residual chlorine limitations.

- Part I.C. - Compliance Reporting:
The quantification level (QL) for BOD_5 has been changed from 5.0 mg/l to 2 mg/l in accordance with current recommendations from the Office of VPDES Permits and Standard Methods 22st edition.

- Part I.D. - Other Requirements and Special Conditions:
The special condition for the submittal of an operations and maintenance manual has been updated and does not require DEQ approval unless requested by the Department.

- Part II - Conditions Applicable to All VPDES Permits:

A.1.c. - Added VELAP special condition which requires samples to be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Laboratories per VPDES Permit Manual IN-1, A.4, page 15, updated March 26, 2104.

A.2. - Clarified that operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

I.3. - Added language which allows for the Reporting of Non-Compliance activities to be submitted online in addition to reporting them by means of a telephone call.

22. Variances/Alternate Limits or Conditions:
None

23. Regulation of Users: 9 VAC 25-31-280 B 9
There are no industrial users contributing to the treatment works.

24. Public Notice Information required by 9 VAC 25-31-280 B:

All pertinent information is on file and may be inspected, and copied by contacting Willard Keene at:
Virginia Department of Environmental Quality
Southwest Regional Office
355-A Deadmore Street
Abingdon, VA 24210
Telephone No. 276-676-4847
Email: willard.keene@deq.virginia.gov

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may review the draft permit and application at the DEQ Southwest Regional Office by appointment.

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

25. Additional Comments:

a. Previous Board Action:
None.

b. Staff Comments:
Threatened and Endangered Species coordination with DCR and DGIF is not required per the 2016 VPDES reissuance schedule.

c. Additional Comments:
None.

d. Public Comment:
Pending

26. 303 (d) Listed Segments (TMDL):

This facility discharges directly to *Mill Branch*, a tributary to the Powell River. The Powell was listed as impaired in the 2004 303 (d) impaired waters listing due to EColi and sediment. There is a TMDL for the Powell which includes a wasteload allocation for the Appalachia Elementary STP.

A Total Maximum Daily Load (TMDL) was developed for the Powell River water shed and is entitled "E. Coli and Phased Benthic Total Maximum Daily Load Development for Powell River and Tributaries (N.F. Powell River, S.F. Powell River, Butcher Fork and Wallen Creek)." The EPA approved the TMDL on 03/10/2011.

Sediment:
The TMDL allocation for this discharge is 0.5 t/year annual average and a maximum daily of 0.001 t/day. The VPDES permit has Total Suspended Solids Limitations of 30 *mg/l monthly average and 45 mg/l weekly average* and is in compliance with the approved TMDL for the Powell River and Tributaries.

It is unlikely that the discharge from the Appalachia Elementary School STP is having an impact on the benthic community in Mill Branch based on the small volume of wastewater discharged, however as a precautionary measure a TMDL reopener is being included in this permit should future permit action be necessary or required in the TMDL implementation plan.

Bacteria:
T*he Powell* was also placed on the Commonwealth of Virginia's 2006 303(d) List of Impaired Waters for not supporting the state's bacteria criteria. The TMDL addressing bacteria (E.coli) entitled "E. Coli and Phased Benthic Total Maximum Daily Load Development for Powell River and Tributaries (N.F. Powell River, S.F. Powell River, Butcher Fork and Wallen Creek)." The EPA approved the TMDL on 03/10/2011. *The average annual wasteload allocation for this discharge is 2.09E+10 and the average daily wasteload allocation is 5.73E+07.* Since the TMDL is approved, the reissued VPDES permit includes bacterial effluent limits in accordance with applicable permit guidance and will ensure that the discharge meets the applicable numeric water quality criteria for bacteria at the end-of-pipe.

Fact Sheet
VA0060798
Attachment 1

Flow Frequency Determination
Mill Branch
January 11, 2011

The VPDES permit for the Appalachia Elementary School STP (VA0060798) was previously reissued in 2006 using flow frequencies for the receiving stream based on USGS gage data from 1995. The USGS gage data has been updated to indicate a change in flows at the reference gage used for the calculation; a continuous record gage on the Powell River at Big Stone Gap, VA (#03529500). Using the flow data from the 2005 USGS data, as well as the information presented in the attached 1995 memo, the Mill Branch flows were recalculated at the discharge.

P05= flow frequency at Powell gage 2005
P95= flow frequency at Powell gage 1995
M05= flow frequency at Mill Branch discharge 2005
M95= flow frequency at Mill Branch discharge 1995

$$\frac{M95}{M05} = \frac{P95}{P05}$$

	2005 gage	resulting flow frequencies for Mill Branch	
	cfs	cfs	mgd
1Q10	7.2	0.14	0.0905
7Q10	8.0	0.15	0.0969
30Q5	13	0.27	0.1745
High Flow 1Q10	14	0.30	0.1939
High Flow 7Q10	18	0.37	0.2391
Harmonic Mean	47	1.1	0.7109

Attachment 3

Calculation of Ammonia Nitrogen
January 2011

Facility Name: Appalachia Elementary School STP
Permit No. VA0060798

Based on the Water Quality Standards, 9 VAC 25-260-155, an ammonia water quality criterion was determined for Mill Branch. This determination was made based on the fact that Mill Branch is a Class IV stream and therefore is not considered suitable water for trout. Due to the fact that there is no ambient data for Mill Branch, a pH value of 8.2 s.u. and a temperature of 14° C were used to represent conservative values for the stream. Based on these facts, an acute freshwater criterion for Mill Branch was determined to be 5.73 mg N/L. The chronic freshwater criterion was determined to be 1.79 mg N/L. Mixing zone predictions for Mill Branch indicate a complete mix and 100% of the drought flows for the stream may be used when calculating the WLAs.

Standards:

Acute Standard	Chronic Standard
5.73 mg N/L	1.79mg N/L

Wasteload allocation for Ammonia:

$$WLA_{aw} = \text{acute wet WQ-WLA} = \frac{[Ao_w(Qs\text{-}1_{wet} + Qe) - Qs\text{-}1_{wet}(background)]}{Qe}$$

$$WLA_{cw} = \text{chronic wet WQ-WLA} = \frac{[Co_w(Qs\text{-}30_{wet} + Qe) - Qs\text{-}30_{wet}(background)]}{Qe}$$

Where:

WLA_{aw} = low flow season acute wasteload allocation

WLA_{cw} = low flow season chronic wasteload allocation

Ao_w = low flow season acute stream standard

Co_w = low flow season chronic stream standard

Qe = design flow of STP (MGD) = 0.012

Qs-1 = HF 1Q10 Flow (MGD) = 0.1939

Qs-30 = HF 30Q10 Flow (MGD) = 0.5609

Page 2
Calculation of Ammonia limits
January 2011

Facility Name: Appalachia Elementary School STP
Permit No. VA0060798

Using the above formulas, the wet season wasteload allocations are as follows, expressed in mg N/L:

Parameter	WLA_{aw}	WLA_{cw}
Ammonia	98	85

Permit Limits:

The WLAs calculated above were then entered into the OWPP's STATS.EXE computer program. The program determined that a wet season limit is not required for ammonia for this location. The program output statistics are attached.

3/15/2011 9:18:08 AM

Facility = Appalachia ES STP
Chemical = ammonia- wet season
Chronic averaging period = 30
WLAa = 98
WLAc = 85
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 12
Variance = 51.84
C.V. = 0.6
97th percentile daily values = 29.2010
97th percentile 4 day average = 19.9654
97th percentile 30 day average= 14.4726
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

12

Attachment 3

Calculation of Ammonia Nitrogen
January 2011

Facility Name: Appalachia Elementary School STP
Permit No. VA0060798

Based on the Water Quality Standards, 9 VAC 25-260-155, an ammonia water quality criterion was determined for Mill Branch. This determination was made based on the fact that Mill Branch is a Class IV stream and therefore is not considered suitable water for trout. Due to the fact that there is no ambient data for Mill Branch, a pH value of 8.2 s.u. and a temperature of 24° C were used to represent conservative values for the stream. Based on these facts, a dry season, acute freshwater criterion for Mill Branch was determined to be 5.73 mg N/L. The dry season, chronic freshwater criterion was determined to be 0.97 mg N/L. Mixing zone predictions for Mill Branch indicate a complete mix and 100% of the drought flows for the stream may be used when calculating the WLAs.

Standards:

Acute Standard	Chronic Standard
5.73 mg N/L	0.97mg N/L

Wasteload allocation for Ammonia:

WLA_{ad} = acute dry WQ-WLA = $\dfrac{[Ao_d(Qs\text{-}1_{dry} + Qe) - Qs\text{-}1_{dry}(background)]}{Qe}$

WLA_{cd} = chronic dry WQ-WLA = $\dfrac{[Co_d(Qs\text{-}30_{dry} + Qe) - Qs\text{-}30_{dry}(background)]}{Qe}$

Where:

WLA_{ad} = low flow season acute wasteload allocation

WLA_{cd} = low flow season chronic wasteload allocation

Ao_d = low flow season acute stream standard

Co_d = low flow season chronic stream standard

Qe = design flow of STP (MGD) = 0.012

Qs-1 = 1Q10 Flow (MGD) = 0.0905

Qs-30 = 30Q10 Flow (MGD) = 0.1527

Facility Name: Appalachia Elementary School STP
Permit No. VA0060798

Using the above formulas the dry season wasteload allocations are as follows, expressed in mg N/L:

Parameter	WLA_{ad}	WLA_{cd}
Ammonia	49	13

Permit Limits:

The WLAs calculated above were then entered into the OWPP's STATS.EXE computer program. The program determined that, based on chronic toxicity, a dry season limit of 26 mg/l is required for ammonia for this location. This limit is less restrictive than the 14 mg/l imposed by the previous permit; therefore, the current limit of 14 mg/l will be retained. The program output statistics are attached.

3/15/2011 9:19:32 AM

Facility = Appalachia ES STP
Chemical = ammonia- dry season
Chronic averaging period = 30
WLAa = 49
WLAc = 13
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 12
Variance = 51.84
C.V. = 0.6
97th percentile daily values = 29.2010
97th percentile 4 day average = 19.9654
97th percentile 30 day average= 14.4726
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 26.229711214412
Average Weekly limit = 26.229711214412
Average Monthly LImit = 26.229711214412

The data are:

12

Attachment 4

Calculation of Total Residual Chlorine Limits

Facility Name: Appalachia Elementary School STP
Permit No. VA0060798

Based on the Water Quality Standards, 9 VAC 25-260-00 et seq., total residual chlorine acute and chronic values given were used to calculate acute and chronic waste load allocations. Copies of the calculations are attached.

STANDARDS:

Acute Standard	Chronic Standard
0.019 mg/l	0.011 mg/l

At a previous reissuance, calculated drought flows were reported by OWRM-WQAP in a memorandum from Paul Herman dated July 6, 1995. OWRM-WQAP calculated flows based on drainage area proportions and flow data reported by USGS from a continuous record gage on the Powell River at Big Stone Gap, VA. Updated data posted for the USGS gage in 2005 indicated a change in the flows included in the 1995 memo. Drought flows for Mill branch were calculated using the updated data. Information concerning flow calculation is attached to the permit fact sheet.

Wasteload Allocation For TRC:

WLA_{ad} = acute dry WQ-WLA = $\frac{[Ao_d(Qs\text{-}1_{dry} + Qe) - Qs\text{-}1_{dry}(background)]}{Qe}$

WLA_{cd} = chronic dry WQ-WLA = $\frac{[Co_d(Qs\text{-}7_{dry} + Qe) - Qs\text{-}7_{dry}(background)]}{Qe}$

Where:

WLA_{ad} = low flow season acute wasteload allocation

WLA_{cd} = low flow season chronic wasteload allocation

Ao_d = low flow season acute stream standard

Co_d = low flow season chronic stream standard

Qe = design flow of STP (MGD) = 0.012

Qs-1 = 1Q10 Flow (MGD) = 0.0905

Qs-7 = 7Q10 Flow (MGD) = 0.0969

Using the above formulas the dry season wasteload allocations for TRC are as follows, expressed in mg/l:

Parameter	WLA_{ad}	WLA_{cd}
Total Residual Chlorine	0.1623 mg/l	0.0998 mg/l

Calculation of Total Residual Chlorine Limits

Facility Name: Appalachia Elementary School STP
Permit No. VA0060798

Wasteload Allocation For TRC: (continued)

Only the dry season WLAs are calculated, since they are the most restrictive.

PERMIT LIMITS

The WLA's (chronic and acute) and one extreme dry season data value was then entered into OWPP's STATS version 2.0.4 computer program. The STATS version 2.0.4 computer program determined that **an average monthly limit of 0.072 mg/l and an average weekly limit of 0.089 mg/l are required for Total Residual Chlorine.** The computer program output statistics are attached.

3/15/2011 9:21:31 AM

Facility = Appalachia ES STP
Chemical = chlorine
Chronic averaging period = 4
WLAa = 0.1623
WLAc = 0.0998
Q.L. = .1
# samples/mo. = 30
# samples/wk. = 7

Summary of Statistics:

observations = 1
Expected Value = 99
Variance = 3528.36
C.V. = 0.6
97th percentile daily values = 240.908
97th percentile 4 day average = 164.715
97th percentile 30 day average= 119.399
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 0.145964963448512
Average Weekly limit = 0.089141855111303
Average Monthly LImit = 0.072343325068255

The data are:

99

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. **VA0060798**
Effective Date: April 1, 2016
Expiration Date: March 31, 2021

AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, and Parts I and II of this permit as set forth herein.

Owner:	Wise County Public Schools
Facility Name:	Appalachia Elementary School Sewage Treatment Plant
County:	Wise
Facility Location:	3965 Kent Junction Road, Appalachia, VA

The owner is authorized to discharge to the following receiving stream:

Stream:	Mill Branch
River Basin:	Tennessee-Big Sandy River
River Subbasin	Clinch/Powell River
Section:	1
Class:	IV
Special Standards:	None

_____
Regional Director,
Department of Environmental Quality

_____
Date

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from outfall serial number 001. For the months of June 1 to November 30, such discharges shall be limited and monitored by the permittee as specified below.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATION				MONITORING REQUIREMENTS	
	Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)[a]	NL	NA	NA	NL	1/Day	Estimate[b]
pH (standard units)	NA	NA	6.0	9.0	1/Day	Grab
BOD_5 [c,d]	30 mg/l 1.4 kg/d	45 mg/l 2.0 kg/d	NA	NA	1/Month	Grab
Suspended Solids [c,d]	30 mg/l 1.4 kg/d	45 mg/l 2.0 kg/d	NA	NA	1/Month	Grab
Ammonia as NH_3-N [c]	14 mg/l	14 mg/l	NA	NA	1/Month	Grab
Dissolved Oxygen	NA	NA	5.0 mg/l	NL	1/Day	Grab
Total Residual Chlorine (TRC) (mg/l)[e]	0.068 mg/l	0.084 mg/l	NA	NA	1/Day	Grab
E Coli[f]	126 N/100 ml	NA	NA	NL	1/Year	Grab

a. The design flow of this treatment facility is 0.012 MGD.
b. Estimated average daily flowrate shall be based on the most accurate method or device available such as: weir, potable water meter, pump rates, etc...
c. See Part I C.1. for quantification levels and Part I C.2. for compliance determinations for BOD_5, TSS and NH3N.
d. At least 85% removal for BOD_5 and TSS must be attained for this effluent.
e. See Part I B. (1-4) for Additional Requirements regarding TRC monitoring. See Part I C. 1. for quantification levels and Part I C. 2. for compliance determinations for TRC.
f. E.Coli sampling may be conducted in any single month of the calendar year. Four (4) E.Coli samples shall be taken, with at least one (1) sample taken each calendar week, in any calendar month of each year. Samples should be collected at least 7 days apart. Each sample is to be collected between the hours of 10:00 a.m. and 4:00 p.m. A Geometric mean shall be calculated and reported using all data collected during any calendar month with a minimum of four weekly samples.
g. There shall be no discharge of floating solids or visible foam in other than trace amounts.

NL = No Limitation; monitoring requiredNA = Not Applicable

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from outfall serial number 001. For the months of December 1 to May 31, such discharges shall be limited and monitored by the permittee as specified below.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATION				MONITORING REQUIREMENTS	
	Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)[a]	NL	NA	NA	NL	1/Day	Estimate[b]
pH (standard units)	NA	NA	6.0	9.0	1/Day	Grab
BOD_5 [c,d]	30 mg/l 1.4 kg/d	45 mg/l 2.0 kg/d	NA	NA	1/Month	Grab
Suspended Solids [c,d]	30 mg/l 1.4 kg/d	45 mg/l 2.0 kg/d	NA	NA	1/Month	Grab
Dissolved Oxygen	NA	NA	5.0 mg/l	NL	1/Day	Grab
Total Residual Chlorine (TRC) (mg/l)[e]	0.068 mg/l	0.084 mg/l	NA	NA	1/Day	Grab
E Coli[f]	126 N/100 ml	NA	NA	NL	1/Year	Grab

a. The design flow of this treatment facility is 0.012 MGD.
b. Estimated average daily flowrate shall be based on the most accurate method or device available such as: weir, potable water meter, pump rates, etc...
c. See Part I C.1. for quantification levels and Part I C.2. for compliance determinations for BOD_5, and TSS.
d. At least 85% removal for BOD_5 and TSS must be attained for this effluent.
e. See Part I B. (1-4) for Additional Requirements regarding TRC monitoring. See Part I C. 1. for quantification levels and Part I C. 2. for compliance determinations for TRC.
f. E.Coli sampling may be conducted in any single month of the calendar year. Four (4) E.Coli samples shall be taken, with at least one (1) sample taken each calendar week, in any calendar month of each year. Samples should be collected at least 7 days apart. Each sample is to be collected between the hours of 10:00 a.m. and 4:00 p.m. A Geometric mean shall be calculated and reported using all data collected during any calendar month with a minimum of four weekly samples.
g. There shall be no discharge of floating solids or visible foam in other than trace amounts.

NL = No Limitation; monitoring required NA = Not Applicable

B. Additional Total Residual Chlorine Limitations and Monitoring Requirements

1. The permittee shall monitor the TRC at the outlet of the chlorine contact tank at a *frequency of once per day by grab sample.*

2. No more than [***3***] of all samples taken at the outlet of the chlorine contact tank shall be less than *1.0 mg/l* for any one calendar month. [DMR code # 157].

3. No TRC sample collected at the outlet of the chlorine contact tank shall be less than *0.60 mg/l.* [DMR code # 213].

4. If dechlorination facilities exist the samples above shall be collected prior to dechlorination.

5. If disinfection is by a method other than chlorination, *E. coli* shall be limited and monitored by the permittee as specified below and this requirement, if applicable, shall substitute for the TRC requirements delineated elsewhere in Part I of this permit.

	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Avg.	Weekly Avg.	Frequency	Sample Type
E.coli (N/100ml)	126*	NA	1/Week**	Grab

* Geometric Mean
** Between 10:00 a.m. and 4:00 p.m.

This E. coli requirement, if applicable, shall substitute for the TRC requirements delineated elsewhere in Part I.B.(1)-(4).

C. Compliance Reporting Under Part I.A. and I.B:

1. The quantification levels (QL) shall be as follows:

Effluent Characteristic	Quantification Level
BOD_5	*2 mg/l*
Total Suspended Solids	*1.0 mg/l*
Total Residual Chlorine	*0.10 mg/l*
Ammonia Nitrogen	*0.20 mg/l*

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

2. Reporting
   a. Monthly Average - Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in subsection C.1. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in C.1. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

   b. Weekly Average - Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in subsection C.1. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in C.1. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the

reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in 1. above), then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used for the analysis (QL must be less than or equal to the QL listed in C.1. above). Otherwise the numerical value shall be reported.

d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

D. Other Requirements or Special Conditions

1. *95% Capacity Reopener* - A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the Southwest Regional Office of the Virginia Department of Environmental Quality, 355-A Deadmore Street, Abingdon, VA 24210 when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the Southwest Regional Office no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. *Indirect Dischargers* - The permittee shall provide adequate notice to the Department of the following:

   a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and

   b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

   Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. *O&M Manual Requirement* - The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and Sewage Collection and Treatment Regulations, 9VAC25-790.

   The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days

of a request by DEQ, the current O&M Manual shall be submitted to the DEQ Regional Office for review and approval.

The O&M manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;

b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;

c. Discussion of Best Management Practices, if applicable;

d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;

e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping; and,

f. Plan for the management and/or disposal of waste solids and residues;

g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;

h. List of facility, local and state emergency contacts;

i. Procedures for reporting and responding to any spills/overflows/ treatment works upsets.

4. *Reliability Class* - The permitted treatment works shall meet Reliability Class III.

5. *CTC, CTO Requirement* - The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ Southwest Regional Office. The design plans shall be submitted by the design engineer and owner to the DEQ regional Water Permit Manager prior to construction wastewater treatment works and operating the treatment works, respectively.

Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

6. *Treatment Works Closure Plan* - If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ Southwest Regional Office a closure plan for the existing treatment works. The plan shall address the following information as a minimum:

   a. Verification of elimination of sources and/or alternate treatment scheme;

   b. Treatment, removal and final disposition of residual wastewater and solids;

   c. Removal/demolition/disposal of structures, equipment, piping, outfall and appurtenances;

   d. Site grading, and erosion and sediment control;

   e. Restoration of site vegetation;

   f. Access control;

   g. Fill materials and proposed land use (post-closure) of the site.

   The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. No later than 14 calendar days following closure completion, the permittee shall submit to the DEQ Southwest Regional Office written notification of the closure completion date and a certification of closure in accordance with the approved plan.

7. *Sludge Use and Disposal* - The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices. The Sludge Management Plan is considered to be the VPDES sewage sludge permit application form and attachments; The plan consists of pumping and transporting the sludge in a watertight tank truck to the Coeburn-Norton-Wise Regional WWTP (VA0077828).

8. *Sludge Reopener* - The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

9. *Public Sewerage Service* - This discharge shall be terminated whenever public sewerage service is made available.

10. *Total Maximum Daily Load (TMDL) Reopener* - This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring.

1. Samples and measurements taken as required by this permit shall be representative of the monitored activity.

   a. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
   b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
   c. Samples taken shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

2. Any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in A. 1. a. through c. above and the results of this monitoring shall be included in the calculations and reporting required by this permit.

3. Operational or process control samples or measurements shall not be taken at the designated permit sampling or measurement locations. Operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records.

1. Records of monitoring information shall include:
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) and time(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results.

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

   Department of Environmental Quality
   Southwest Regional Office
   355-A Deadmore Street
   Abingdon, VA 24210

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.

3. If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.

4. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information.

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating

this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges.

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or

2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges.

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II F; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II F, shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;

2. The cause of the discharge;

3. The date on which the discharge occurred;

4. The length of time that the discharge continued;

5. The volume of the discharge;

6. If the discharge is continuing, how long it is expected to continue;

7. If the discharge is continuing, what the expected total volume of the discharge will be; and

8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges.

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II I 2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;

2. Breakdown of processing or accessory equipment;

3. Failure or taking out of service some or all of the treatment works; and

4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
   a. Any unanticipated bypass; and
   b. Any upset which causes a discharge to surface waters.

2. A written report shall be submitted within 5 days and shall contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II I if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II I 1 or 2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II I 2.

   NOTE: The immediate (within 24 hours) reports required in Parts II G, H and I may be made to the Department's Regional Office at (276) 676-4800 (voice) or (276) 676-4899 (fax) or online at (http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingaReport.aspx). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24 hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes.

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
   a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
      (1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
      (2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject

neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or

c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements.

1. Applications. All permit applications shall be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person

described in Part II K 1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part II K 1;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

c. The written authorization is submitted to the Department.

3. Changes to authorization. If an authorization under Part II K 2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II K 2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Parts II K 1 or 2 shall make the following certification:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal

established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply.

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit.

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law.

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II U), and "upset" (Part II V) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve

compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of solids or sludges.

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass.

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II U 2 and U 3.

2. Notice
   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II I.

3. Prohibition of bypass.

a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
   (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
   (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
   (3) The permittee submitted notices as required under Part II U 2.

b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II U 3 a.

V. Upset.

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II V 2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   a. An upset occurred and that the permittee can identify the cause(s) of the upset;
   b. The permitted facility was at the time being properly operated;
   c. The permittee submitted notice of the upset as required in Part II I; and
   d. The permittee complied with any remedial measures required under Part II S.

3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry.

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions.

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits.

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II Y 2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.

2. As an alternative to transfers under Part II Y 1, this permit may be automatically transferred to a new permittee if:
   a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
   b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II Y 2 b.

Z. Severability.

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.